WE CLAIM AS OUR INVENTION:

1. An implantable heart stimulating device comprising:

a control circuit having a memory;

a first sensing circuit adapted for connection to a first sensing member, adapted to be positioned to interact with a first ventricle of a heart, to supply signals to said first sensing circuit for sensing cardiac events related to said first ventricle;

a second sensing circuit adapted for connection to a second sensing member, adapted to be positioned to interact with a second ventricle of the heart, to supply signals to said second sensing circuit for sensing cardiac events related to the second ventricle;

a first stimulation circuit adapted for connection to a first stimulation member, adapted to be positioned to interact with the first ventricle, to deliver stimulation signals to the first ventricle from the first stimulation circuit;

a second stimulation circuit adapted for connection to a second stimulation member, adapted to be positioned to interact with the second ventricle, for delivering stimulation signals from the second stimulation circuit to the second ventricle; and

said control circuit being operable with a time cycle corresponding to a normal cardiac cycle, and said control circuit performing an algorithm wherein said control circuit:

(a) determines whether, during a time cycle in which no stimulation signal is delivered by said second stimulation circuit, a signal S2a, sensed by said second sensing circuit, occurs substantially simultaneously with a signal S1a sensed by said first sensing circuit,

(b) determines whether a further signal S2b is sensed by the second sensing circuit within a predetermined time interval following said signal S2a, and within a same time cycle as said signal S2a, said predetermined time interval starting at a time between 20 and 200ms after said signal S2a, and

(c) if both (a) and (b) occur, said control circuit storing in said memory an indication that said signal S2a has been detected, said signal S2a, constituting a candidate as a far field signal.

2. An implantable heart stimulating device as claimed in claim 1 wherein said control circuit sets said predetermined time interval to a duration in a range between 40 and 250ms.

3. An implantable heart stimulating device as claimed in claim 2 wherein the control circuits sets said duration of said predetermined time interval to a duration in a range between 50 and 150ms.

4. An implantable heart stimulating device as claimed in claim 1 wherein said control circuit starts said predetermined time interval at a time in a range between 50 and 150 ms after said signal S2a.

5. An implantable heart stimulating device as claimed in claim 1 wherein said control circuit performs said algorithm in a plurality of time cycles and adjusts a control variable associated with at least one of stimulating and sensing at least one of said first and second ventricles, if said signal S2a is detected during a predetermined number of said time cycles.

6. An implantable heart stimulating device as claimed in claim 5 wherein said control variable is a sensing threshold of said second sensing circuit, and wherein said control circuit adjusts said sensing threshold by increasing said sensing threshold.

7. An implantable heart stimulating device as claimed in claim 1 wherein said control circuit additionally determines whether, during a time cycling which no stimulation signal is delivered by said first stimulation circuit and no stimulation signal is delivered by said second stimulation circuit, a signal S1b is detected in addition to said signal S2b, said signal S1b fulfilling the criteria of being sensed by said first sensing circuit within a predetermined time interval following said signal S1a and within a same time cycle as said signal S1a, said predetermined time interval starting at a time in a range between 20 and 200 ms after said signal S1a, and wherein said control circuit stores in said memory and indica-

tion that both said signal S1b and said signal S2b have been detected during a time cycle.

8. An implantable heart stimulating device as claimed in claim 7 wherein said control circuit causes said predetermined time interval associated with detection of said signal S1b to substantially coincide with said predetermined time interval associated with sensing of said further signal S2b.

9. An implantable heart stimulating device as claimed in claim 7 wherein said control circuit sets at least one timer period in response to detection of at least one of signals S1a and S2a and wherein, when said control circuit detects both said signals S1b and S2b during a time cycle, said control circuit modifies said timer.

10. An implantable heart stimulating device as claimed in claim 9 wherein said control circuit sets said timer period in response to detection of at least one of said signals S1a and S2a by resetting a timer period, and modifies said timer period by annulling resetting of said timer period.

11. An implantable heart stimulating system comprising:

a control circuit having a memory;

a first sensing member adapted to be positioned to interact with a first ventricle of a heart;

a first sensing circuit connected to said first sensing member to supply signals to said first sensing circuit for sensing cardiac events related to said first ventricle;

a second sensing member adapted to be positioned to interact with a second ventricle of the heart;

to supply signals to said second sensing circuit for sensing cardiac events related to the second ventricle;

a first stimulation member adapted to be positioned to interact with the first ventricle;

a first stimulation circuit connected to said first stimulation member to deliver stimulation signals to the first ventricle from the first stimulation circuit;

a second stimulation member adapted to be positioned to interact with the second ventricle;

a second stimulation circuit connected to said second stimulation member for delivering stimulation signals from the second stimulation circuit to the second ventricle; and

said control circuit being operable with a time cycle corresponding to a normal cardiac cycle, and said control circuit performing an algorithm wherein said control circuit:

(a) determines whether, during a time cycle in which no stimulation signal is delivered by said second stimulation circuit, a signal S2a, sensed by said second sensing circuit, occurs substantially simultaneously with a signal S1a sensed by said first sensing circuit,

(b) determines whether a further signal S2b is sensed by the second sensing circuit within a predetermined time interval following said signal S2a, and within a same time cycle as said signal S2a, said predetermined time interval starting at a time between 20 and 200ms after said signal S2a, and

(c) if both (a) and (b) occur, said control circuit storing in said memory an indication that said signal S2a has been detected, said signal S2a, constituting a candidate as a far field signal.

12. An implantable heart stimulating system as claimed in claim 11 wherein said first stimulation member is carried by said first lead and wherein said second stimulation member is carried by said second lead.

13. An implantable heart stimulating system as claimed in claim 12 wherein said first stimulation member and said first sensing member are a same member, and wherein said second stimulation member and said second sensing member are a further same member.

14. A method for bi-ventricular stimulation and sensing comprising the steps of:

providing a control circuit with a memory;

connecting a first sensing circuit adapted to a first sensing member and positioning said first sensing member to interact with a

first ventricle of a heart, to supply signals to said first sensing circuit for sensing cardiac events related to said first ventricle;

connecting a second sensing circuit to a second sensing member and positioning said second sensing member to interact with a second ventricle of the heart, to supply signals to said second sensing circuit for sensing cardiac events related to the second ventricle;

connecting a first stimulation circuit to a first stimulation member and positioning said first stimulation member to interact with the first ventricle, to deliver stimulation signals to the first ventricle from the first stimulation circuit;

connecting a second stimulation circuit to a second stimulation member and positioning said second stimulation member to interact with the second ventricle, for delivering stimulation signals from the second stimulation circuit to the second ventricle; and

operating said control circuit with a time cycle corresponding to a normal cardiac cycle, and performing an algorithm in said control circuit comprising:

(a) determining whether, during a time cycle in which no stimulation signal is delivered by said second stimulation circuit, a signal S2a, sensed by said second sensing circuit, occurs substantially simultaneously with a signal S1a sensed by said first sensing circuit,

(b) determining whether a further signal S2b is sensed by the second sensing circuit within a predetermined time interval following said signal S2a, and within a same time cycle as said signal S2a, said predetermined time interval starting at a time between 20 and 200ms after said signal S2a, and

(c) if both (a) and (b) occur, storing in said memory an indication that said signal S2a has been detected, said signal S2a, constituting a candidate as a far field signal.

15. A method as claimed in claim 14 comprising the steps of, in said control circuit, sensing said signals S1a and S2a during a portion of a heart cycle wherein R-waves are expected to occur in said first and second ventricles, and employing said algorithm to detect whether said signal S2a is not a sensed R-wave from said second ventricle but is a far field signal candidate from said first ventricle.

16. A method as claimed in claim 15 comprising making said indication of said detection of said signal as to a accessible from said memory during a medical check-up.

17. A method as claimed in claim 14 comprising selecting said stimulation pulses delivered by said first and second stimulation circuits to treat congested heart failure.

18. A method as claimed in claim 14 comprising selecting said stimulation signals delivered by said first and second stimulation circuits to treat left bundle branch block.

19. A method as claimed in claim 14 comprising selecting said stimulation signals delivered by said first and second stimulation circuits to treat right bundle branch block.